

Applicants : David S. Teppo et al.
Appln. No. : 09/885,877
Page -6-

REMARKS

This amendment is in response to the final Office Action dated May 22, 2003. A Petition for One-Month Extension of Time to Respond is included herewith. Claims 1-3, 5-7, and 10-24 are pending in the present application. Reconsideration is respectfully requested for the following reasons.

The undersigned gratefully acknowledges the courtesies extended during a telephone interview conducted September 16, 2003 in which the independent claims 1 and 20 and also relevant dependent claims were discussed along with the cited art. Proposals were made for amended claim language consistent with that set forth in the above-proposed amendment.

As discussed in the interview, the present claims focus on the species of Figs. 6, 6A, and 6B. The present apparatus functions by a bladder (39A') being positioned on a front surface of a back shell (26A) having a flexible lumbar region (see Fig. 1, region 27). When the bladder is deflated (Fig. 6A), the bladder has a relative longer length. When the bladder is inflated, a longitudinal length of the bladder shortens. Since the bladder is attached at top and bottom ends to the back shell and spans the lumbar region, the shortened inflated bladder causes the flexible lumbar section to bend to a different shape.

Specifically, in regard to the claims, claim 1 defines a back construction for a seating unit including, among other things, a flexible back panel made of incompressible material that resists shortening when stressed and that is configured to support a seated user's torso. The back panel is further defined including a stiff top section, a stiff bottom section, and a flexible lumbar section. The back construction further includes a bladder attached to the stiff top and bottom sections and spanning the flexible lumbar section of the flexible back panel so that when the bladder expands in one direction and simultaneously shortens in a different vertical direction, the lumbar section bends and the back panel is flexed to a different shape.

Support for the phrase "an incompressible material that resists shortening when stressed" is found on page 6, lines 8-9 of the present application where it refers to "the back shell 26 is stressed as the bladder 45 shortens and the edge strips 31 resist shortening.". It is noted that in order to "resist shortening" and to function as defined in the specification, the material must be "incompressible". It is further noted that the material of the back panel (also called a back "shell" 26) is referred to as a "sheet-like flexible plastic back panel" (page 3, lines 24-25), and further that the cross sections of Figs. 2-4, 5C, 5D, 6A, and 6B all show the plastic material of the back as being

Applicants : David S. Teppo et al.
Appln. No. : 09/885,877
Page -7-

solid (i.e. not foam). Also, page 6, lines 19-20 refers to "a stiffer back shell (e.g. a back shell made of stiffer material or made with a thicker dimension)." It is further noted that the disclosure inherently discloses the use of incompressible material so that when the bladder is inflated and shortens in length, the back shell resists compression in a longitudinal sense and causes a change of shape as clearly described in the application and clearly shown in Figs. 6, 6A, and 6B, and as well described starting on page 5, line 18 through page 7, line 7. If the Examiner has questions in this regard, she is invited to call the undersigned.

As discussed in the interview, the cited prior art does not disclose or suggest the invention as defined in the amended claims. Concurrently, this subject matter was already searched for by the Examiner, as evidenced by the canceled dependent claim 4, which defines the bladder as extending in a vertical direction, and canceled claims 8 and 9, which define the back panel as having a flexible lumbar section and stiff top and bottom sections. Further, the original claim 1 (in its last line) defined the "back panel as flexed to a different shape". This supports the present amendment, which clarifies the fact that it is the lumbar section that bends and flexes.

As discussed in the interview, Johnson 5,314,235 discloses an inflatable bladder (compare Fig. 3 and Fig. 4) where the foam portion of a back support undergoes a shape change with a front surface bulging forward as the bladder is filled (see Fig. 4). However, in Johnson, the rear panel (base plate 28) remains planar. Thus, Johnson does not teach a bladder that changes a shape of a panel made of incompressible material as the bladder is inflated. Instead, in Johnson, the bladder bulges outward and forward, itself, pushing a foam piece with it.

Peterson discloses a chair having a "flat" lumbar support (24) positioned on a back shell, the back shell having a flexible lumbar section (23). However, the lumbar device 24 is necessarily shorter in its vertical dimension than the lumbar section 23 so that as the lumbar device is moved vertically, it engages different areas on the lumbar section to change a shape of the lumbar section. The lumbar device of Peterson could NOT be attached at its top and bottom to the back shell. If it was, the lumbar device of Peterson would be non-functional.

Schrewe 5,758,925 discloses a chair back having an inflatable bladder. However, as best shown in Fig. 14, the bladder causes the cushion 104 to move forward in the area of the lumbar area away from the front plate 103. (Compare Fig. 14 to Fig. 1.) Accordingly, as best understood, Schrewe teaches a bladder that, when inflated, causes the cushion material to bulge forward. Neither the front panel nor the back panel change shape when the bladder is inflated.

Applicants : David S. Teppo et al.
Appln. No. : 09/885,877
Page -8-

Nothing in any of the above three patents (Johnson, Peterson, nor Schrewe), nor the remaining cited patents or uncited patents now being considered in this case, disclose or suggest a bladder attached at top and bottom sections of a back panel made of incompressible material and spanning a flexible lumbar section where inflation of the bladder causes the bladder to expand in one direction and simultaneously shorten in a different vertical direction, whereby the lumbar section bends and thus the back panel is flexed to a different vertical shape as in the present invention as defined in claim 1.

Dependent claims 2-3, 5-7, and 10-19 are dependent on claim 1 and are therefore allowable since claim 1 is allowable. Further, these claims define non-obvious combinations with the subject matter of claim 1.

Claim 20 has been similarly amended to claim 1 and is allowable for the same reasons given in regard to claim 1. Dependent claims 21-24 are dependent on base claim 20 and are therefore also allowable.

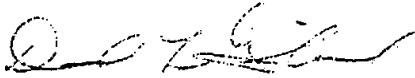
Reconsideration of the rejection is respectfully requested and a Notice of Allowability earnestly solicited.

Respectfully submitted,

DAVID S. TEPP0 ET AL.

By: Price, Heneveld, Cooper.
DeWitt & Litton

Sept 15, 02
Date


Daniel L. Girdwood
Registration No. 34 827
695 Kenmoor, S.E.
Post Office Box 2567
Grand Rapids, Michigan 49501
(616) 949-9610

DLG/dlc